

substrate 90. In FIG. 10, none of circuit lines 210, 220, and 230 are embedded into the substrate 204. In FIG. 11, none of circuit lines 310 20 are embedded into the substrate 304. In FIG. 12, none of circuit lines 410 and 420 are embedded into the substrate 404.

The Examiner rejected claims 1-4, and 6-8 under 35 U.S.C. §102(b) as being anticipated by Furukawa (JP 10032371).

The Examiner rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over Furukawa as applied to claims 1-4, and 6-8 and further in view of Frey *et al.* (U.S. 5,249,101).

The Examiner rejected claims 9 and 10 under 35 U.S.C. §103(a) as being unpatentable over Furukawa as applied to claims 1-4, 6-8 and further in view of Nishiguchi *et al.* (U.S. 5,214,308).

The Examiner rejected claims 11-13 under 35 U.S.C. §103(a) as being unpatentable over Furukawa as applied to claims 1-4, 6-8 and further in view of Haji (U.S. 5,767,008) and Bertin *et al.* (U.S. 5,977,640).

Applicants respectfully traverse the §102(b) and §103(a) rejections. Additionally, Applicants respectfully object to the present Office Action being a Final Office Action.

Final Office Action

Applicants respectfully object to the present Office Action being a Final Office Action, because the Examiner has made a new argument in the present Office Action by now arguing that Furukawa teaches the following feature of claim 1: “the second circuit line is electrically coupled to the first circuit line”. In the prior Office Action of January 19, 2001, the Examiner did not even allege that Furukawa teaches the aforementioned feature of claim 1. While the Examiner now

argues in the present Office Action that the aforementioned feature of claim 1 is shown in the plated through hole (19) of Figure 24 of Furukawa, the Examiner did not make this argument in the prior Office Action of January 19, 2001. As stated in MPEP 706.07, “the invention as disclosed and claimed should be thoroughly searched in the first action **and the references fully applied** ”(emphasis added). Accordingly, Applicants maintain that in the present Office Action, the Examiner has rejected claim 1 by arguing for the first time that Furukawa discloses the aforementioned feature of claim 1 and has thus stated a new grounds for rejection not necessitated by Applicants’ amendment. Hence, Applicants respectfully request that the Examiner change the present Final Office Action to a non-Final Office Action.

35 U.S.C. §102(b)

The Examiner alleges that “Furukawa discloses (Fig. 24) substrate (13), first conductive pad (Items 23 A, B) located at bottom of Plated Through Hole (19) consisting of first thickness which is made of layers 19 and 3B, second conductive pad (Item 25) located at top of Plated Through Hole (PTH) with a second thickness made of layers 7, 3A and 19; a first and second circuit line in mechanical and electrical contact on opposite surfaces by PTH (19) and on the same surface (Figures 26A, B, Items 25 A, B and 23A, B); a third line (Figure 26 A, B, Item J) of a third thickness coupled to a first and second circuit line (Furukawa, Paragraph 0032); and end of the first circuit line (23A) includes a first conductive pad and end of the second line (25A) includes a second conductive pad (Figure 26A).”

Applicants maintain that claim 1, as amended herein, is distinguished from Furukawa, because Furukawa does not teach that a circuit line is not embedded into the substrate. Indeed,

Furukura teaches the opposite by stating in the Abstract: "The **thick pad circuit** pattern is projected from the substrate corresponding to the **thin pad circuit** pattern. The remaining part of the **thick pad circuit** pattern is embedded into the substrate." Accordingly, Applicants respectfully maintain that claim 1, as amended, is in condition for allowance. Since claims 2-13 depend from claim 1, Applicants maintain that claims 2-13 are likewise in condition for allowance.

35 U.S.C. §103(a)

Based on Applicants' argument *supra* that claim 1 is in condition for allowance, the §103(a) rejection of claims 5, 9-10, and 11-13 is moot.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all claims 1-13 meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below.

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Appendix A. Identification of Amended Material

Claim 1 is amended as follows.

1. (AMENDED) An electronic structure, comprising:

a substrate;

a first circuit line including a first conductive pad and having a first thickness, wherein the first circuit line is coupled to the substrate and is not embedded into the substrate; and

a second circuit line including a second conductive pad and having a second thickness that is unequal to the first thickness, wherein the second circuit line is coupled to the substrate and is not embedded into the substrate, and wherein the second circuit line is electrically coupled to the first circuit line.